

AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) A method of estimating pitch in a speech signal, the method comprising the steps of:

sampling the speech signal to obtain a series of samples,

dividing the series of samples into segments, each segment having a fixed number of consecutive samples,

calculating for each segment an autocorrelation function for the signal,

~~detecting peaks in the autocorrelation function,~~

providing an intermediate signal derived from the autocorrelation function of the speech signal,

converting said intermediate signal to a binary signal, said binary signal being set to logical "1" where the intermediate signal exceeds a pre-selected threshold and to logical "0" where the intermediate signal does not exceed the pre-selected threshold,

calculating an autocorrelation function of the binary signal, ~~and~~

detecting peaks in the autocorrelation function of the binary signal, and

using distance between peaks in the autocorrelation function of the binary signal as an estimate of the pitch.

2. (CURRENTLY AMENDED) The method according to claim 1, wherein ~~the intermediate signal is provided by filtering~~ the speech signal is filtered through a filter based on a set of filter parameters estimated by using linear predictive analysis (LPA).

3. (CANCELED)

4. (PREVIOUSLY PRESENTED) The method according to claim 1, further comprising the step of:

selecting, if the peak corresponding to the distance between the peaks is represented by a number of samples, the sample having the maximum amplitude of said autocorrelation function as the estimate of the pitch.

5. (ORIGINAL) Use of the method according to claim 1 in a mobile telephone.

6. (CURRENTLY AMENDED) A device adapted to estimate pitch of a speech signal, comprising:

a sampler for sampling the speech signal to obtain a series of samples,

a divider for dividing the series of samples into segments, each segment having a fixed number of consecutive samples,

an autocorrelation calculation unit for calculating for each segment an autocorrelation function for the signal, and

~~a peak detector for detecting peaks in the autocorrelation function, and~~

a programmed unit:

for providing an intermediate signal derived from the autocorrelation function of the speech signal,

for converting said intermediate signal to a binary signal, said binary signal being set to logical "1" where the intermediate signal exceeds a pre-selected threshold and to logical "0" where the intermediate signal does not exceed the pre-selected threshold,

for calculating the autocorrelation of the binary signal, ~~and~~

for detecting peaks in the autocorrelation function of the binary signal, and

for using distance between peaks in the autocorrelation function of the binary signal as an estimate of the pitch.

7. (CURRENTLY AMENDED) The device according to claim 6, which includes a filter which is adapted to ~~provide the intermediate signal by filtering~~ filter the speech signal through the filter based on a set of filter parameters estimated by means of linear predictive analysis (LFA).

8. (CANCELED)

9. (PREVIOUSLY PRESENTED) The device according to claim 6, which is further adapted to select, if a peak corresponding to the distance between the peaks is represented by a number of samples, the sample having the maximum amplitude of said autocorrelation function as the estimate of the pitch.

10. (PREVIOUSLY PRESENTED) The device according to claim 6, wherein the device is a mobile telephone.

11. (PREVIOUSLY PRESENTED) The device according to claim 6, wherein the device is an integrated circuit.

12. (PREVIOUSLY PRESENTED) The method of claim 1, wherein:

the provided intermediate signal is derived from the autocorrelation function of the speech signal, and

the binary signal is set to logical "1" where a peak value in an autocorrelation sequence of the intermediate signal exceeds a pre-selected threshold and to logical "0" where a peak value of an autocorrelation sequence of the intermediate signal does not exceed the pre-selected threshold.

13. (PREVIOUSLY PRESENTED) The device of claim 6, wherein:

the provided intermediate signal is derived from the autocorrelation function of the speech signal, and

the binary signal is set to logical “1” where a peak value in an autocorrelation sequence of the intermediate signal exceeds a pre-selected threshold and to logical “0” where a peak value of an autocorrelation sequence of the intermediate signal does not exceed the pre-selected threshold.